

## Department of Energy

## Pt. 430, Subpt. B, App. M

The field test results would be used to determine the best method to correlate the rating of the test clothes washer to the rating of the base clothes washer. If the base clothes washer is rated at A kWh per year, but field tests at B kWh per year, and the test clothes washer field tests at D kWh per year, the test unit would be rated as follows:

$$A \times (D/B) = G \text{ kWh per year}$$

6.3 *Adaptive water fill control system field test.* Section 3.2.3.1 defines the test method for measuring energy consumption for clothes washers which incorporate control systems having both adaptive and alternate cycle selections. Energy consumption calculated by the method defined in section 3.2.3.1 assumes the adaptive cycle will be used 50 percent of the time. This section can be used to develop field test data in support of a petition for waiver when it is believed that the adaptive cycle will be used more than 50 percent of the time. The field test sample size should be a minimum of 10 test clothes washers. The test clothes washers should be totally representative of the design, construction, and control system that will be placed in commerce. The duration of field testing in the user's house should be a minimum of 50 energy test cycles, for each unit. No special instructions as to cycle selection or product usage should be given to the field test participants, other than inclusion of the product literature pack which would be shipped with all units, and instructions regarding filling out data collection forms, use of data collection equipment, or basic procedural methods. Prior to the test clothes washers being installed in the field test locations, baseline data should be developed for all field test units by conducting laboratory tests as defined by section 1 through section 5 of these test procedures to determine the energy consumption, water consumption, and remaining moisture content values. The following data should be measured and recorded for each wash load during the test period: wash cycle selected, the mode of the clothes washer (adaptive or manual), clothes load dry weight (measured after the clothes washer and clothes dryer cycles are completed) in pounds, and type of articles in the clothes load (e.g., cottons, linens, permanent press). The wash loads used in calculating the in-home percentage split between adaptive and manual cycle usage should be only those wash loads which conform to the definition of the energy test cycle.

Calculate:

T=The total number of energy test cycles run during the field test

T<sub>a</sub>=The total number of adaptive control energy test cycles

T<sub>m</sub>=The total number of manual control energy test cycles

The percentage weighting factors:

P<sub>a</sub>=(T<sub>a</sub>/T)×100 (the percentage weighting for adaptive control selection)

P<sub>m</sub>=(T<sub>m</sub>/T)×100 (the percentage weighting for manual control selection)

Energy consumption (HE<sub>T</sub>, ME<sub>T</sub>, and DE) and water consumption (Q<sub>T</sub>), values calculated in section 4 for the manual and adaptive modes, should be combined using P<sub>a</sub> and P<sub>m</sub> as the weighting factors.

[62 FR 45508, Aug. 27, 1997; 63 FR 16669, Apr. 6, 1998, as amended at 66 FR 3330, Jan. 12, 2001; 68 FR 62204, Oct. 31, 2003; 69 FR 18803, Apr. 9, 2004]

### APPENDIXES K–L TO SUBPART B OF PART 430 [RESERVED]

### APPENDIX M TO SUBPART B OF PART 430—UNIFORM TEST METHOD FOR MEASURING THE ENERGY CONSUMPTION OF CENTRAL AIR CONDITIONERS AND HEAT PUMPS

NOTE: The procedures and calculations that refer to off mode energy consumption (*i.e.*, sections 3.13 and 4.2.8 of this appendix M) need not be performed to determine compliance with energy conservation standards for central air conditioners and heat pumps at this time. However, any representation related to standby mode and off mode energy consumption of these products made after corresponding revisions to the central air conditioners and heat pumps test procedure must be based upon results generated under this test procedure, consistent with the requirements of 42 U.S.C. 6293(c)(2). For residential central air conditioners and heat pumps manufactured on or after January 1, 2015, compliance with the applicable provisions of this test procedure is required in order to determine compliance with energy conservation standards.

#### 1. DEFINITIONS

#### 2. TESTING CONDITIONS

##### 2.1 Test room requirements.

##### 2.2 Test unit installation requirements.

##### 2.2.1 Defrost control settings.

2.2.2 Special requirements for units having a multiple-speed outdoor fan.

2.2.3 Special requirements for multi-split air conditioners and heat pumps, and systems composed of multiple mini-split units (outdoor units located side-by-side) that would normally operate using two or more indoor thermostats.

2.2.4 Wet-bulb temperature requirements for the air entering the indoor and outdoor coils.

##### 2.2.4.1 Cooling mode tests.

##### 2.2.4.2 Heating mode tests.